

This is an inaccurate portrayal. The Commission's policy rationale for not imposing access charges on ISPs⁶ has always been based on the industry's stability, not its size, and it is as applicable today as it has ever been. The policy was originally created in the Commission's 1983 MTS and WATS order. *Memorandum Opinion and Order*, MTS and WATS Market Structure, 97 FCC 2d 682 (1983). There, the Commission realized that it had to minimize "customer impact" and "market displacement." *Id.* at 715. It found that if it were "to impose full carrier usage charges on enhanced service providers...[they] would experience huge increases in their costs of operation which could affect their viability." *Id.*

In 1988, the Commission revisited its decision and found that imposing access charges would still be "inappropriate," because the enhanced services industry was in a "uniquely complex period of transition." *Order, Amendments of Part 69 of the Commission's Rules Relating to Enhanced Service Providers*, 3 FCCRcd 2631, 2632 (1988). It found two transitional forces to be specifically compelling: the hoped-for provision of unbundled elements of network architecture, so as to allow enhanced service providers to make efficient, *à la carte* purchases of needed elements; and the impending entry by Bell Operating Companies as competitors in the enhanced services market. *Id.* at 2632-33.

The logic that the Commission followed in these previous orders applies with even greater force today. First and foremost, the unbundled elements of the local network will hopefully soon be provided *via* competitive pricing, thanks to the 1996 Act and the Commission's careful

⁶As noted above, at n. 2, the Commission includes ISPs within the broader category of enhanced service providers.

implementation thereof. ISPs already face uncertainty as to the ultimate pricing of the unbundled service elements and the technical effects to their operations. It does not make sense for the Commission to subject ISPs to paying access charges before there is real, effective competition. There is little equity in forcing these companies, and all their users, to shoulder the costs of non-competitively-provided network elements. Perhaps upon such time as competition is widespread for provision of these services, it will finally make sense to revisit the issue; now it does not.

Moreover, the state of flux in the market that concerned the Commission in 1983 and '88 has not changed - it has only increased. Since 1988, the ILECs have entered the market for enhanced services, but they have only recently begun to offer Internet service. Indeed, as noted above, pages 15-16, they stand to improve their competitive positions in these markets as a direct result of a repeal of the exemption. But this is not the only agent of radical change. The market has undergone well-publicized dilemmas involving new pricing structures, growth in the number of users, adoption of new types of uses and standards, content regulation, encryption, intellectual property, trade and taxation. Imposition of access fees, and the resulting decline in use, would only add to the disruption of an already volatile industry. Now, as in 1988, it would be inappropriate for the Commission to add to the confusion, especially in light of the doubts over whether ISP traffic really causes net costs to ILECs. *See* pages 22-34 below. The Commission should wait until the ISP market has stabilized.

2. The ILECs Seeking To Impose New Fees Are Attempting To Segment Their Market Unfairly.

As common carriers, ILECs must take all traffic on their communications platform, regardless of content, *i.e.* what is said on this platform. 47 USC §202. They can segment their

market based on desired levels of service, such as distinguishing between residential or business users, or customers desiring additional services, such as call waiting. But ILECs are not presently permitted to segment the market based on what a particular user says or how long it takes him to say it.

That is exactly what they seek to do here. Access charges, if imposed, would treat ISPs differently from other end users⁷ which receive calls over the local loop, simply because there are allegedly heavier traffic patterns. In effect, this is a "popularity charge." Following this logic, higher charges would apply to families with teenagers, businesses with booming sales orders lines or customer inquiry lines, or any end user with a PBX system that is designed to make efficient use of resources. See page 28, below. ILECs should not be able to increase charges to an end user simply because that user receives more traffic than average.

C. The ILECs Seeking Imposition Of Usage Based Fees Have Not Proven That Congestion Is Becoming A Significant Problem Or That They Suffer A Net Loss From Internet Traffic.

Laudably, the Commission has indicated that it will be critical of the claims made by all parties to this proceeding. In the *NOI*, it has demanded greater certainty and specificity from the parties claiming that ISP traffic poses costs and dangers to the PSTN, or that new charges would threaten the health of the burgeoning information services industry. It has requested "better empirical data" to support such assertions. *NOI* at ¶311.

Faced with this request, the ILECs have simply failed to prove their case. Instead, they have sought to justify the imposition of new access charges by offering only anecdotal accounts

⁷See n. 2, above.

of congestion, many that do not even apply to the PSTN. They have made vague and inflated estimates of the costs of Internet traffic. Finally, they ignore almost all revenue derived from Internet traffic. Especially in light of the potential for an enormous diminution in Internet speech and usage, the Commission should not act based on such suspect evidence.

1. ILEC Claims Are Largely Based On Stories Which Exaggerate The Problem Or Confuse Congestion Private To The Internet With Congestion On The PSTN.

A number of ILECs' have offered doomsday scenarios that ISP traffic has already begun to cause congestion in the PSTN, and that this problem will only increase in the future. As evidence, they offer little more than anecdotes. In many cases, they seize upon stories that actually have no relevance to PSTN traffic. For example, a Bell Atlantic press release cautions that ISP traffic may cause "disruption of vital public safety services such as 911 emergency call service." Report of Bell Atlantic on Internet Traffic, November 19, 1996 at 1. The president of Pacific Telesis, pointing to a single incidence of increased traffic in a single switch in the middle of Silicon Valley, claimed that there would be a "flood" of data traffic which would cause "drowning switches." "Telecom Deregulation and Internet," remarks of Dave Dorman at the Association for Corporate Growth, Los Angeles, January 15, 1997 (downloaded from http://www.pactel.com/about/mgmt_perspectives/dorm11597.html) at 6-7 ("Dorman Speech").

These stories are no substitute for accurate, empirical evidence of congestion. Indeed, ILECs use these tales to claim that ISP traffic will cause congestion in *all* parts of the network, even those geographically remote from the ISP's points of presence. This is an exaggeration of the problem; it is like citing instances of rush hour traffic at 20th and M streets to prove that

traffic will be congested in the suburbs. Instead, Internet traffic is typically diffuse over most parts of the network, but concentrated in only one location.

Many of the most widely-publicized incidents of congestion have been *internal to the Internet itself*, and thus have no impact on the PSTN. Some ILECs have pointed to service outages on Netcom, AOL, and other ISPs, as proof that the PSTN itself is being clogged. "Internet Congestion: Crisis or Come On?," speech by Michael Fitzpatrick, PacTel President and CEO, Wescon/96, October 23, 1996. Congestion within the Internet is simply irrelevant to the PSTN congestion problem. The Internet is a wholly distinct, largely privately-operated network, which intersects the PSTN only at certain specific ISP points of presence. Although these stories show that the ISPs themselves face congestion problems, they occur on the private, data networks only.

It is always possible to concoct scenarios under which ISP traffic could create congestion on other network locations, but they are highly unlikely ever to occur. For example, since Internet user traffic is so diffuse in locations remote from the ISP, it might well be possible for traffic to spike so high as to block all paths between two central offices ("COs"). This is actually quite improbable, however, because interoffice trunks are laid out to ensure that there are redundant paths to complete a given call. ETI Study at 8. Moreover, if a sufficiently large number of users were served by a single CO switch, and all of them tried to contact their ISP at the same time, this traffic could block all paths through the single serving switch. But calls not going through this switch would be unaffected.

Another possible location for greater congestion is the business trunk lines between an

ISP and its serving CO. But because these are individual end user lines, any congestion at this location in the PSTN would not impact other COs, or even other traffic through the ISP's serving CO.⁸ Of course, such traffic might impede the ability of the ISP's subscribers to place calls *to that ISP*. But marketplace forces will be a strong incentive to reduce this type of congestion: an ISP must either purchase more lines and modems to alleviate the congestion, or it will risk losing customers who are dissatisfied with getting busy signals.

The final likely target for congestion is the switch at the serving CO that terminates calls to the ISP. This might be the only location currently beyond the ability of the ISP to minimize. But it is far from clear that ISP traffic has caused problems at these at these serving CO switches. See discussion below at pages 28-29. Moreover, technological solutions are reducing the probability of congestion. For example, ETI found that ISP traffic using trunk port connections, so as to bypass the line concentration module at the CO, will not cause blocking. ETI Study at 30. Bell Atlantic notes that half of the ISPs in its territory use PRI ISDN, a method of trunk port connection that bypasses the line concentration module ("LCM"). Bell Atlantic Study at 2. Therefore, half the ISP traffic in Bell Atlantic's area could not possibly contribute to any congestion problem. Yet the ILEC studies inflate the problem by aggregating ISP traffic that bypasses the LCM with traffic going through the LCM.

⁸As the ETI study demonstrates, this is especially true in the majority of ILEC switches and network components where common channel signalling system 7 ("SS7") is present. With SS7, if it is determined that the ISP's lines are in use, the calling party will receive a busy signal generated by the originating CO. ETI Study at 7-8 n. 13. Therefore, no interoffice network resources will be used by these customers, and there is little chance that traffic caused by inadequate line purchase at the ISP would "'back up' into the public network." *Id.*

2. ISP Traffic Is Off Peak And Makes Efficient Use Of PSTN Capacity, But ILECs Have Avoided Direct Comparisons Of Peak-hour Capacity With Internet Traffic.

The ILEC studies have failed to show how ISP traffic could possibly contribute to their costs, because the majority of that traffic is off-peak and therefore makes efficient use of spare capacity. It is generally accepted that "[t]he cost of operating the PSTN and many of its components is sensitive to the peak demand placed on each network resource and to the relationship between that peak demand and the aggregate capacity of the individual network components." ETI Study at 11.

ISP traffic is largely off-peak, however, as attested to by even the ILECs' own studies. Bell Atlantic Study at 2-3 (ISPs' busy hour 10:00 p.m.); Pacific Telesis Study at 2 (same). There should be little cost incurred by such off-peak use, or even significant growth of off-peak traffic. ETI Study at 11.

The ILEC studies, however, have avoided a direct comparison of peak hour demand on system components at 5:00 p.m. with the ISP hunt groups' hour of highest demand at 10:00 p.m., opting only to show that the duration per call is longer for ISPs. Moreover, no ILEC studies have shown that ISP traffic has caused the busy hour to shift. Even though ILECs claim that the PSTN is engineered for shorter calls, the number of these short calls placed at 5:00 p.m. would certainly be greater than at 10:00 p.m. Thus, the total call volume during the peak hour may still be far greater, and may still use much more switch capacity, than during the ISP hunt group busy hour.

An increase in off-peak use of the PSTN does not lead to the conclusion that ISP traffic

increases the ILECs costs. This is equivalent to saying that more nighttime traffic on an interstate highway will cause more congestion during rush hour. The ILECs have not explained how off-peak traffic from Internet users would somehow produce costs that do not occur for other off-peak traffic. They have not shown that off-peak traffic causes greater wear on network components. Nor do they attempt to show that traffic at 10:00 at night interferes with the traffic from the majority of users during the business day.

3. ISPs Should Not Be Compared With Interexchange Carriers.

In responding to the Commission's questions in the *NOPR* about Internet traffic, a number of commenters stated that ISPs are functionally identical to interexchange telephone carriers. *See, e.g.*, Pacific Telesis *NOPR* Comments at 78; Southwestern Bell Telephone Company *NOPR* Comments at 19; ACTA *NOPR* Comments at 30-31.

This is a flawed analogy for several reasons, however. First and foremost, as noted above, the Internet is more than just a medium for interexchange communications. It has assumed a role as a speakers' platform, a potentially limitless source of information, and an important mode of commerce. As such, the Commission should not regulate Internet traffic rates as it would interexchange tariffs and access charges, but should also consider the effects of the rate structure on the speech and information access interests of Internet users.

ISPs have been classified as end users, buying many lines for the purpose of processing user traffic and transferring it to a private data network. *See n. 2, above.* Few would argue that other end users, such as large businesses or government agencies, should have to pay access charges, even if their PBXs received a large, steady volume of calls. Customer service lines,

catalog sales lines, and local call in contests may also receive a large concentration of traffic, but they do not pay usage sensitive fees. Many end users pass traffic on to data networks, including bank-by-phone lines, credit verification networks, and ticket purchasing agencies.

Indeed, busy hour line usage may be as great for these other end users as for ISPs.

An efficient, cost-minimizing telecommunications customer, such as a large business or government agency, would try to engineer its trunk line usage so that it purchased only as many lines as necessary to achieve a desired grade of service. Shared utilization of these trunks among the individual users during busy hours would lead to high concentrations of traffic, perhaps higher than seen on ISP trunks. For example, the ETI Study calculates that a PBX with 900 individual station lines would require 97 trunk lines, which would have a traffic volume of 28 CCS during the busy hour. See ETI Study at 18. Thus, in this case, the business might routinely generate a concentration of traffic even greater than the levels of ISP traffic that ILECs claim is congesting the network. The effect of access charges, therefore, would be to tax the ISPs' efficient use of trunk lines.

4. The ILEC Studies Extrapolate Unrepresentative Samples And Anecdotal Evidence To Estimate The Effects Of Internet Traffic On The Entire PSTN.

The ILEC studies are also noteworthy for the degree to which they rely on anecdotal evidence to extrapolate to costs and congestion on the PSTN as a whole. Put another way, the studies' sample selection is not representative of their ILECs' networks as a whole. Their unrepresentative sampling of a few extreme, isolated incidents of congestion grossly overestimates what would be found in a more statistically valid review.

For example, as the ETI Study has observed, Pacific Telesis operates 790 CO switches in the state of California. It nonetheless selected only 29 of those to study, and discusses only one of these as having service problems. That one switch is located in Silicon Valley, where Internet traffic is likely to be far above average. ETI Study at 20. Similarly, Bell Atlantic examined only 9 COs, or under 5000 out of the 20.1 million circuits in its territory. Even so, it could find supposed congestion at only 5 of these 9. Bell Atlantic Study at 2; "2nd Quarter 1996 Results" at 1 (downloaded from "http://www.bellatl.com/invest/fin_info/q296/p01.htm").

This means that the Bell Atlantic study found congestion problems at only approximately *0.014%* of the total access lines in its territory. Using similar analysis for the Pacific Telesis study, PacTel found congestion problems at only *0.00038%* of its access lines.⁹ Compare Pacific Telesis Study at 1-2 with "Pacific Telesis Reports Strong Quarterly and Annual Growth," January 21, 1997, at 2 (downloaded from <http://www.pactel.com/cgi-bin/getrel?1457>).¹⁰

5. The ILEC Studies Have Exaggerated Their Estimates Of The Costs Of Internet Traffic, And Have Not Shown Whether Their Spending Results From ISP Traffic Or Would Have Occurred Anyway.

Another manner in which the ILECs advocating the imposition of new fees fall short of establishing their case is that they have greatly overestimated the costs Internet traffic causes to their networks.

⁹This assumes the same number of lines are served by each CO. Even removing this assumption would not change the end result -- the congestion alleged by these studies would still affect a vanishingly small fraction of one percent of these ILECs' lines in service.

¹⁰Total number of access lines for Pacific Telesis calculated as 18.169 million by dividing total of 48,330 employees over reported workforce efficiency ratio of 26.6 employees per 10,000 access lines. *Id.*

Pacific Telesis has stated that it was forced to spend \$14 million in 1996 to upgrade its network to carry ISP traffic - \$2.6 million in incremental capital expense, and \$11 million "to meet the forecasted ESP demand for ISDN primary rate."¹¹ PacTel Study at 2. As noted above at page 12, however, Internet user traffic routed over these PRI ISDN connections will not contribute to congestion over the PSTN, and ISP payment for PRI ISDN results in a net profit for the ILECs. So the only costs that are relevant for this proceeding would be the incremental capital expenses.

Although Bell Atlantic can point to specific instances totaling only \$2.5 million in costs, it claims that the total cost from serving ISPs in 1996 was \$30 million. Bell Atlantic Study at 6. To reach this number, however, it makes two unjustified and self-serving assumptions: that *every* line going into a 512 line capacity line unit serves an Internet user and has a traffic load of 30 CCS; and that a tenfold increase in traffic will result in a tenfold increase in costs.¹² It then multiplies this inflated cost figure over every ISP line it presumes to be in its region. *Id.* at 5-6. It never explains any of these premises, nor does it show that ISP traffic will exceed peak hour traffic at the COs serving the ISPs (and that therefore network reengineering will be required).

¹¹Aside from the speculative nature of the second element of Pacific Telesis' costs, it did not specify whether ISPs paid any initiation of service fees to defray the cost of these new ISDN trunks.

¹²Indeed, the Commission has received evidence that an increase in peak-hour capacity *does not* cause a 1:1 proportional increase in costs. ETI Study at 11. This is because many network components would not need replacement because they are "non-blocking," *i.e.* deployed in such a way that they can handle greater loads than the peak capacity of other network elements. *Id.*

Similarly, U.S. West merely asserts without proof that an ISP's usage cost per line is 8 times greater than a business line's cost. U.S. West Study at 2. It does not discuss how it arrives at this figure.

One critical fact never specified in *any* of the ILEC studies is what proportion of their costs are attributable to routine network maintenance. All PSTN traffic, voice, data, or otherwise, causes some incremental maintenance cost. ILECs are constantly spending money to maintain, redeploy, or replace physical plant. Without knowing the ILEC's baseline level of upkeep for the COs studied, it is impossible to determine specifically whether ISP traffic has caused an increase in costs.

While ILECs have not provided meaningful data for direct comparison, it is still possible to compare the sums the ILECs claim to contribute to Internet user traffic with their reported annual costs. Bell Atlantic has reported annual gross capital expenditures of \$2.488 billion for 1995, and average annual gross capital expenditures of \$2.300 billion over the last 5 years. Network Services Capital Expenditures (downloaded from <http://www.bell-atl.com/invest/businvpr/netserv/nce.htm>). Assuming similar expenditures for 1996, the costs Bell Atlantic detailed in its study comprised 0.11% of its annual total.

6. The ILEC Studies Greatly Underestimate Their Revenues From ISP Traffic.

Another reason for the Commission to be skeptical of ILEC estimates of net costs from Internet user traffic is that ILEC studies significantly understate the revenues this traffic

generates.

a. *The ILECs Do Not Include User Fees That Are Paid At The Origination Point Of Internet Traffic.*

First, the ILEC studies fail to state that they already collect use-based revenue from Internet traffic. They claim that ISPs avoid paying usage fees because they terminate large amounts of traffic but originate almost none. *See, e.g.*, Dorman Speech at 6; Bell Atlantic Study at 1. These ILECs fail to state, however, that the same calls terminating at the ISPs *originate from and are paid for by* the ISP user. In no way, therefore, is this unpaid traffic. *See, also*, ETI Study at 23-24, *citing Interconnection Order I* in CC Docket 96-98 (state-regulated use fees typically exceed the underlying incremental cost of local network usage). In effect, new access charges would allow ILECs to double-recover for ISP traffic.

b. *The ILECs Do Not Include Their Substantial Revenue From Residential Second Lines Which Are Used For Internet Traffic.*

Moreover, the ILEC studies make no mention of revenues from sales of residential second lines. According to the Commission's own statistics, the second line penetration rate in 1995 was almost 15% of all households. FCC Industry Analysis Division, "Percentage Additional Residential Lines for Households with Telephone Service (End of Year Data)," December 6, 1996.

It is quite clear elsewhere, however, that second lines produce significant profits. The ILECs' own financial statements and press releases proclaim that residential second lines are an engine driving great revenue growth, and are becoming an increasingly important part of their business. For example, in the third quarter of 1996, U.S. West declared that its residential

second line sales had increased 31.7% over the previous 12 months, a number 8 times greater than residential sales growth over the same period. "U.S. West Communications Records Another Quarter of Strong Growth In Core Operations," October 23, 1996, at 1 (downloaded from "[http:// www.uswest.com/aboutusw/newsreleases/comm/102396.html](http://www.uswest.com/aboutusw/newsreleases/comm/102396.html)"). At the end of 1995, over 8% of its residential customers had purchased second lines. "U.S. West Communications, Inc. Access Lines" (downloaded from U.S. West website at <http://www.uswest.com/aboutusw/investorinfo/factbooks/95comfactbook/oandt/access.html>).

Similarly, in the second quarter of 1996, Pacific Telesis reported that second residential lines caused over half its annual residential line growth. "Pacific Telesis Reports Record-Setting Increases in New Customer Lines in Second Quarter," July 18, 1996, at 1 (downloaded from <http://www.pactel.com/cgi-bin/getrel?1233>) In October, 1996, it reported that the number of second lines had increased by 105% over the previous year. "Pacific Teleses Continues Earnings Growth in Third Quarter," October 17, 1996, at 1 (downloaded from <http://www.pactel.com/cgi-bin/getrel?1309>).¹³

Bell Atlantic predicts that one-third of the residential market will have second lines by the year 2000. "Network Services, Strategic Overview" at 3 (downloaded from "<http://www.bell-atl.com/invest/businvpr/netserv/overview.htm>").

¹³It is especially revealing that Pacific Telesis' fourth quarter, 1996, report made *no mention* of second line sales to Internet users. It released this report after it had commenced its bid to impose access charges on ISPs. Instead, for the first time, it attributed the growth of residential lines only to "[a]ggressive marketing efforts and the strengthened California economy." "Pacific Telesis Reports Strong Quarterly and Annual Growth," January 21, 1997, at 2 (downloaded from "[http:// www.pactel.com/cgi-bin/getrel?1457](http://www.pactel.com/cgi-bin/getrel?1457)").

In addition to their usual profits per line in service, ILECs' costs-per-line are even less, and profit margins are even greater, for additional residential lines than for first lines. Second lines make use of capacity that is already in place, because "most ILECs have for many years been providing a minimum of two pairs per residential premises, sometimes as many as four...." ETI Study at 24, *citing* Deposition of William L. Vowell, March 11, 1996, California PUC.

In total, observers place the nationwide revenue in 1995 from second residential lines at over 1.4 billion, including annual recurring revenues of over 1.2 billion. David Braun, "Baby Bells Score \$1.4B From Net, *TechInvestor*, March 13, 1997 (downloaded from "<http://www.techweb.com:80/investor/newsroom/tinews/mar/0313bells.html.body?>"); ETI Study at 27. This is a windfall far exceeding even the Bellcore estimate of national costs attributable to ISP traffic. *Id.* at 26.

c. The ILECs Understate The Revenues Received Directly From ISPs.

Finally, the ILECs have underestimated the revenues they receive directly from ISPs. They assert that the only revenues received are the simple monthly cost of a business trunk line. Bell Atlantic Study at 1; Dorman Speech at 6. This ignores the fees received from additional services like hunt groups, and connection and installation fees. ETI Study at 25.

7. The Network Reliability And Interoperability Council Analyzed The Effects Of Internet Traffic On The PSTN And Found Little Problem.

The steering committee of the Network Reliability and Interoperability Council ("NRIC") has been focusing its efforts on an evaluation of the extent of the problem to the PSTN that might

be posed by Internet traffic. *NOI* at ¶17.¹⁴

The steering committee's findings are yet another indication that the ILECs have failed to prove the existence of any problem. As reported to a recent meeting of NRIC, the steering committee has examined "FCC-reportable outage data" and found "there is nothing that would suggest an FCC/network reliability issue." Corrected Minutes of the October 31, 1996 Meeting of the Network Reliability and Interoperability Council, at ¶37. NRIC found that it "is not likely that the Internet as it is presently being used could cause a reportable outage," and it "saw no indication that Internet traffic presented any immediate reliability threat." *Id.* at ¶¶36-37.

CONCLUSION

This inquiry marks an important turning point in FCC policy. The issue it raises, whether and how telephone companies can charge for providing local transport and switching services for particular kinds of customers, superficially resembles telephony questions the Commission has routinely resolved for more than sixty years. But this time, the question is infused with fundamental First Amendment issues. The wrong answer will diminish growth of a transformative tool for advancing both democratic discourse and economic growth.


As the IUC has shown, the imposition of new charges for Internet access would slow the growth of Internet usage and create disincentives for construction of data-friendly networks.

¹⁴The Commission has noted that NRIC, itself comprised of representatives from leading parties including many ILECs, trade associations, and computer equipment manufacturers, has appointed this special steering committee to investigate Internet developments affecting the PSTN and to report whether specific actions would be appropriate. The Commission declared that it did not intend for the *NOI* to supersede NRIC's findings, and that these recommendations will compliment the record the Commission develops. *Id.*

ILECs are adequately compensated for their services under the current scheme. Internet use is not a source of congestion on the PSTN.

Access charges are a solution in search of a problem. The FCC should reject them.

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